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(54) **VIRTUAL MAKEOVER**

VIRTUELLES MAKEOVER

CHANGEMENT DE STYLE VIRTUEL

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(73) Proprietors:·
• **UNILEVER PLC**
London EC4P 4BQ (GB)
Designated Contracting States:
GB IE CY
• **UNILEVER N.V.**
3013 AL Rotterdam (NL)
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(72) Inventor: **RIGG, Richard Tyson**
New York, NY 11413 (US)

(74) Representative:
**Mulder, Cornelis Willem Reinier, Dr. et al
Unilever PLC,
Patent Division,
Colworth House
Sharnbrook, Bedford MK44 1LQ (GB)**

(56) References cited:

EP-A- 0 226 959	EP-A- 0 828 230
WO-A-97/29441	FR-A- 2 728 982
JP-A- 63 080 692	US-A- 5 478 238
US-A- 5 495 338	

• **PATENT ABSTRACTS OF JAPAN vol. 1999, no.
10, 31 August 1999 (1999-08-31) & JP 11 143352
A (ONISHI NETSUGAKU KOGYOSHO:KK), 28
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Description

Field of the Invention

[0001]   The present invention relates to a method and apparatus for allowing a consumer at point-of-sale to evaluate colour cosmetic products on their virtual facial image prior to purchase.

BACKGROUND OF THE INVENTION AND PRIOR ART

[0002]   Colour cosmetics encompass among others lipsticks, eyeliner, blush, lipliner, eye shadow and facial foundation. A vast array of colours and shades are available to consumers. Often the consumer finds it difficult to select among this vast array of choices. It is difficult to decide how a particular colour or shade will look when actually spread on the skin. Even more difficult to assess is how a combination of colour cosmetic products such as facial foundation, lipstick and eye shadow will work together for a particular individual.

[0003]   Systems have been developed to assist the decision process. Clinique and Clarion have installed computers at sales counters for use by the consumer. Information on colour shade, oiliness and other properties of a consumer's skin are punched into the computer which then determines the company's most closely matching product.

[0004]   Another point of sale technique has been that of custom blending. Two major companies, Prescriptives (division of Estee Lauder) and Visage (division of Revlon) begin a sale by manually evaluating a subject's skin colour. The sales person then adjusts existing finished foundations so as to match the evaluated skin colour for a perfect facial foundation. Unfortunately, the system is time consuming, requires extensively trained sales persons, and has poor reproducibility.

[0005]   U.S. Patent 5,854,850, U.S. Patent 5,825,941 and U.S. Patent 5,687,259 all to Linford et al. assigned to the Mirror Software Corporation disclose a system for digital image capture of a particular person's face and software to manipulate facial structures. The system is intended for reconstructive plastic surgery.

[0006]   JP-A-63 080 692 describes a makeup simulation system whereby a face is imaged via a camera onto a television monitor. Colour makeup can then be selected for application to different parts of the image.

[0007]   It is evident that relatively unsophisticated systems are available for colour matching. The technology also exists for digital recording of individual faces. To date there has been no disclosure of systems, which utilise digital imagery for cosmetic products. Neither has there been reported any systems for obtaining virtual makeover of a consumer's image whereby the consumer can see the effect of different colour cosmetic products on their own face.

[0008]   Accordingly, it is an advantage of the present invention to provide a method and apparatus for forming a virtual makeover of a person's face on an image monitor so as to allow selection of the best colour combinations.

[0009]   Another object of the present invention is to provide a method and apparatus for virtual makeover at a point of sale counter wherein colour makeup can be electronically painted over the consumer's image without requiring actual removal of make-up prior to obtaining a baseline natural skin colour image.

[0010]   These and other objects of the present invention will become more apparent from the following summary and detailed description.

SUMMARY OF THE INVENTION

[0011]   According to a first aspect, the present invention provides a method for applying a virtual makeover to a person's face, the method involving:

(i) directing a digital camera at a person's face to register an image of at least a portion thereof;
(ii) calculating colour parameters on two or more areas of the image to identify a natural colour of the skin;
(iii) transmitting the image to a monitor for displaying the face;
(iv) correlating the natural skin colour with a predetermined palette of colours appropriate to the calculated natural skin colour;
(v) locating areas of the face for application of a colour cosmetic; and
(vi) displaying the facial image with the predetermined colour palette on the located areas.

[0012]   According to a further aspect, the present invention provides apparatus for applying virtual makeover to a person's face, the apparatus including:

(i) a digital camera for acquiring information on the person's facial image;
(ii) a program for calculating colour on two or more different areas of the facial image not normally covered by cosmetics to identify a natural colour of the person's skin;
(iii) a monitor for displaying the facial image;
(iv) a program for painting a predetermined colour palette correlated with the natural skin colour onto certain located areas of the face normally subject to colour cosmetic treatment; and
(v) a printer delivering a printout of the predetermined colour palette.

DETAILED DESCRIPTION OF THE INVENTION

[0013]   A problem with prior attempts to visualise colour cosmetics for customers has been the inability to determine their natural skin colour. Now it has been

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Field of the Invention

[0001]   The present invention relates to a method and apparatus for allowing a consumer at point-of-sale to evaluate colour cosmetic products on their virtual facial image prior to purchase.

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[0006]   JP-A-63 080 692 describes a makeup simulation system whereby a face is imaged via a camera onto a television monitor. Colour makeup can then be selected for application to different parts of the image.

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[0009]   Another object of the present invention is to provide a method and apparatus for virtual makeover at a point of sale counter wherein colour makeup can be electronically painted over the consumer's image without requiring actual removal of make-up prior to obtaining a baseline natural skin colour image.

[0010]   These and other objects of the present invention will become more apparent from the following summary and detailed description.

SUMMARY OF THE INVENTION

[0011]   According to a first aspect, the present invention provides a method for applying a virtual makeover to a person's face, the method involving:

   (i) directing a digital camera at a person's face to register an image of at least a portion thereof;
   (ii) calculating colour parameters on two or more areas of the image to identify a natural colour of the skin;
   (iii) transmitting the image to a monitor for displaying the face;
   (iv) correlating the natural skin colour with a predetermined palette of colours appropriate to the calculated natural skin colour;
   (v) locating areas of the face for application of a colour cosmetic; and
   (vi) displaying the facial image with the predetermined colour palette on the located areas.

[0012]   According to a further aspect, the present invention provides apparatus for applying virtual makeover to a person's face, the apparatus including:

   (i) a digital camera for acquiring information on the person's facial image;
   (ii) a program for calculating colour on two or more different areas of the facial image not normally covered by cosmetics to identify a natural colour of the person's skin;
   (iii) a monitor for displaying the facial image;
   (iv) a program for painting a predetermined colour palette correlated with the natural skin colour onto certain located areas of the face normally subject to colour cosmetic treatment; and
   (v) a printer delivering a printout of the predetermined colour palette.

DETAILED DESCRIPTION OF THE INVENTION

[0013]   A problem with prior attempts to visualise colour cosmetics for customers has been the inability to determine their natural skin colour. Now it has been

found that natural skin colour can be determined via digital imaging by comparing L*a*b colour values on at least two different areas of the facial image. Consumers do not place makeup over 100% of their face. The digital scan identifies those areas of skin which are not covered by makeup, provides a colour value for that area and utilises the value as a baseline colour for re-imaging a cosmetically stripped face onto a monitor.

[0014] Another challenge for the system was to locate those areas of the face upon which colour cosmetics can be applied electronically. The program locates colour requiring areas such as the lips, cheeks and eyes.

[0015] A digital image of a customer's face may be taken at a point-of-sale department store counter for storage into a central memory and then made available at a website. The image may also be storable locally at the store or within an intranet system of the cosmetic supplier. Also envisioned is the alternative possibility for the customer scanning their own actual image from their home computer. Many of these customers now have relatively inexpensive digital imaging cameras interfaceable with personal computers and thereby can connect directly to the internet.

[0016] Once the natural skin colour has been identified, a consultant's choice is automatically determined from a software stored set of 12-20 colours matching the person's skin type. This provides a colour matching facial foundation for building the first stage of colour makeover. Feedback is then accepted into the program on the customer's own preferences. For instance, these preferences can be with respect to three possible "looks" such as fashion, natural or go-to-work types.

[0017] A lipstick can then be provided as a consultant's best choice. The customer can also provide input for her favourite colour. The pick may be a natural or dramatic look. These choices are then fed directly into the program for facial display on the monitor.

[0018] Other colour cosmetics can be applied in the same consultant's choice and consumer preference feedback mode. These cosmetics can include eye shadow, eyeliner, lipliner and blush. The monitor can display images from no makeup to full makeup with all products or any step in between.

[0019] When a particular look including all the necessary colour cosmetics have been selected, a printer is activated with an ordering slip for the selected cosmetics. The customer is identified by a number and the selected products given a barcode symbol or other designation correlating the product with the customer.

[0020] The customer's image can be placed on an internet site. At some subsequent time, the customer can view the Internet site and from the comfort of their own terminal evaluate various makeovers on their face. Cosmetics to accomplish the actual makeover can then be ordered on the web site or through any other channel.

[0021] Equipment for the method includes a digital camera available from several sources. Nikon provides a suitable high resolution digital camera under the trade-

mark Coolpix 900™ providing an image size of 1080 x 960 pixels, VGA mode 640 x 480. Another digital camera, which may be utilised, is the PhotoGenie™ sold with the ePHOTO 1680 camera by the Agfa Corporation. Image size is 1280 x 1200 pixels, VGA mode 640 x 480. Software for operating the system can be obtained from Torchlight Corporation of Seattle. Programs upon which this software is based are found in U.S. Patent 5,854,850, U.S. Patent 5,825,941 and U.S. Patent 5,687,259.

[0022] The foregoing description illustrates selected embodiments of the present invention and in light thereof variations and modifications would be suggested to one skilled in the art, all of which are within the scope of this invention as defined in appended claims.

Claims

1. A method for applying a virtual makeover to a person's face, the method comprising:

    (i) directing a digital camera at a person's face to register an image of at least a portion thereof;
    (ii) calculating colour parameters on two or more areas of the image to identify a natural colour of the skin;
    (iii) transmitting the image to a monitor for displaying the face;
    (iv) correlating the natural skin colour with a predetermined palette of colours appropriate to the calculated natural skin colour;
    (v) locating areas of the face for application of a colour cosmetic; and
    (vi) displaying the facial image with the predetermined colour palette on the located areas.

2. A method according to claim 1 further comprising placing an order for colour cosmetics corresponding to the predetermined colour palette.

3. A method according to claim 1 or claim 2 wherein the located areas are lips and in step (vi) displaying on the lips a lipstick mark or a colour other than of the natural colour of the skin.

4. A method according to claim 1 or claim 2 wherein the located areas are around the eyes and in step (vi) displaying around the eyes an eyeliner or eye shadow mark of a colour other than the natural colour of the skin.

5. A method according to any of claims 1 to 4 further comprising the step of assigning to a customer, represented by the person's face, a number and assigning to the colour cosmetics a barcode symbol or other designation correlating ordered colour cosmetics with the customer.

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1. A method for applying a virtual makeover to a person's face, the method comprising:

   (i) directing a digital camera at a person's face to register an image of at least a portion thereof;
   (ii) calculating colour parameters on two or more areas of the image to identify a natural colour of the skin;
   (iii) transmitting the image to a monitor for displaying the face;
   (iv) correlating the natural skin colour with a predetermined palette of colours appropriate to the calculated natural skin colour;
   (v) locating areas of the face for application of a colour cosmetic; and
   (vi) displaying the facial image with the predetermined colour palette on the located areas.

2. A method according to claim 1 further comprising placing an order for colour cosmetics corresponding to the predetermined colour palette.

3. A method according to claim 1 or claim 2 wherein the located areas are lips and in step (vi) displaying on the lips a lipstick mark or a colour other than of the natural colour of the skin.

4. A method according to claim 1 or claim 2 wherein the located areas are around the eyes and in step (vi) displaying around the eyes an eyeliner or eye shadow mark of a colour other than the natural colour of the skin.

5. A method according to any of claims 1 to 4 further comprising the step of assigning to a customer, represented by the person's face, a number and assigning to the colour cosmetics a barcode symbol or other designation correlating ordered colour cosmetics with the customer.

6. A method according to any of claims 1 to 5 further comprising inquiring with a customer represented by the person's face on their own colour preferences which input is then registered to change the colour of the located area of the displayed facial image.

7. An apparatus for applying virtual makeover to a person's face, the apparatus comprising:

> (i) a digital camera for acquiring information on the person's facial image;
> (ii) a program for calculating colour on two or more different areas of the facial image not normally covered by cosmetics to identify a natural colour of the person's skin;
> (iii) a monitor for displaying the facial image;
> (iv) a program for painting a predetermined colour palette correlated with the natural skin colour onto certain located areas of the face normally subject to colour cosmetic treatment; and
> (v) a printer delivering a printout of the predetermined colour palette.

8. An apparatus according to claim 7 wherein the located areas are lips and the painting program displays on the lips a lipstick mark having a colour other than that of the natural colour of the skin.

9. An apparatus according to claim 7 wherein the located areas are around the eyes and the painting program displays around the eyes an eyeliner or eye shadow mark of a colour other than the natural colour of the skin.

10. An apparatus according to any of claims 7 to 9 wherein the painting program further assigns to a customer, represented by the person's face, a number and assigns to a colour cosmetic a barcode symbol or other designation correlating an ordered colour cosmetic with the customer.

11. An apparatus according to any of claims 7 to 10 wherein the painting program further includes inquiring with a customer represented by the person's face on their own colour preferences which input is then registered to change the colour of the located areas of the displayed facial image.

Patentansprüche

1. Verfahren zum Anwenden eines virtuellen Makeovers auf das Gesicht einer Person, wobei das Verfahren umfasst:

> (i) Richten einer Digitalkamera auf das Gesicht einer Person zur Aufnahme eines Bildes mindestens eines Teils davon;

(ii) Berechnen von Farbparametern auf zwei oder mehreren Bereichen des Bildes, um eine natürliche Färbung der Haut zu identifizieren;
(iii) Übertragen des Bildes auf einen Monitor zur Anzeige des Gesichts;
(iv) Korrelieren der natürlichen Hautfarbe mit einer vorbestimmten Farbpalette, die zur Berechnung der natürlichen Hautfarbe geeignet ist;
(v) Ausfindigmachen von Bereichen des Gesichts zur Anwendung eines farbigen Kosmetikums; und
(vi) Abbilden des Gesichtsbildes mit der vorbestimmten Farbpalette auf den ausfindig gemachten Bereichen.

2. Verfahren nach Anspruch 1, das außerdem eine Bestellung farbiger Kosmetika entsprechend der vorbestimmten Farbpalette umfasst.

3. Verfahren nach Anspruch 1 oder Anspruch 2, wobei die ausfindig gemachten Bereiche Lippen sind und in Schritt (vi) Anzeigen einer Lippenstiftmarkierung oder einer Farbe, die sich von der natürlichen Hautfarbe unterscheidet, auf den Lippen.

4. Verfahren nach Anspruch 1 oder Anspruch 2, wobei die ausfindig gemachten Bereiche sich um die Augen befinden und in Schritt (vi) Anzeigen einer Lidstrich- oder Lidschattenmarkierung in einer Farbe, die sich von der natürlichen Hautfarbe unterscheidet, um die Augen.

5. Verfahren nach einem der Ansprüche 1 bis 4, das außerdem den Schritt der Zuordnung einer Zahl einer durch das Gesicht der Person repräsentierten Kundin und Zuordnen eines Strichcodesymbols oder einer anderen Bezeichnung, die bestellte farbige Kosmetika mit der Kundin korreliert, den farbigen Kosmetika.

6. Verfahren nach einem der Ansprüche 1 bis 5, das außerdem Befragen der durch das Gesicht der Person repräsentierten Kundin über ihre eigenen Farbbevorzugungen umfasst, wobei die Eingabe dann aufgenommen wird, um die Farbe des ausfindig gemachten Bereiches des angezeigten Gesichtsbildes zu ändern.

7. Vorrichtung zum Anwenden eines virtuellen Makeovers auf das Gesicht einer Person, wobei die Vorrichtung umfasst:

> (i) eine Digitalkamera zum Aufnehmen von Informationen hinsichtlich des Gesichtsbildes der Person;
> (ii) ein Programm zur Berechnung der Farbe auf zwei oder mehreren verschiedenen Berei-

6. A method according to any of claims 1 to 5 further comprising inquiring with a customer represented by the person's face on their own colour preferences which input is then registered to change the colour of the located area of the displayed facial image.

7. An apparatus for applying virtual makeover to a person's face, the apparatus comprising:

    (i) a digital camera for acquiring information on the person's facial image;
    (ii) a program for calculating colour on two or more different areas of the facial image not normally covered by cosmetics to identify a natural colour of the person's skin;
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10. An apparatus according to any of claims 7 to 9 wherein the painting program further assigns to a customer, represented by the person's face, a number and assigns to a colour cosmetic a barcode symbol or other designation correlating an ordered colour cosmetic with the customer.

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1. Verfahren zum Anwenden eines virtuellen Makeovers auf das Gesicht einer Person, wobei das Verfahren umfasst:

    (i) Richten einer Digitalkamera auf das Gesicht einer Person zur Aufnahme eines Bildes mindestens eines Teils davon;

    (ii) Berechnen von Farbparametern auf zwei oder mehreren Bereichen des Bildes, um eine natürliche Färbung der Haut zu identifizieren;
    (iii) Übertragen des Bildes auf einen Monitor zur Anzeige des Gesichts;
    (iv) Korrelieren der natürlichen Hautfarbe mit einer vorbestimmten Farbpalette, die zur Berechnung der natürlichen Hautfarbe geeignet ist;
    (v) Ausfindigmachen von Bereichen des Gesichts zur Anwendung eines farbigen Kosmetikums; und
    (vi) Abbilden des Gesichtsbildes mit der vorbestimmten Farbpalette auf den ausfindig gemachten Bereichen.

2. Verfahren nach Anspruch 1, das außerdem eine Bestellung farbiger Kosmetika entsprechend der vorbestimmten Farbpalette umfasst.

3. Verfahren nach Anspruch 1 oder Anspruch 2, wobei die ausfindig gemachten Bereiche Lippen sind und in Schritt (vi) Anzeigen einer Lippenstiftmarkierung oder einer Farbe, die sich von der natürlichen Hautfarbe unterscheidet, auf den Lippen.

4. Verfahren nach Anspruch 1 oder Anspruch 2, wobei die ausfindig gemachten Bereiche sich um die Augen befinden und in Schritt (vi) Anzeigen einer Lidstrich- oder Lidschattenmarkierung in einer Farbe, die sich von der natürlichen Hautfarbe unterscheidet, um die Augen.

5. Verfahren nach einem der Ansprüche 1 bis 4, das außerdem den Schritt der Zuordnung einer Zahl einer durch das Gesicht der Person repräsentierten Kundin und Zuordnen eines Strichcodesymbols oder einer anderen Bezeichnung, die bestellte farbige Kosmetika mit der Kundin korreliert, den farbigen Kosmetika.

6. Verfahren nach einem der Ansprüche 1 bis 5, das außerdem Befragen der durch das Gesicht der Person repräsentierten Kundin über ihre eigenen Farbbevorzugungen umfasst, wobei die Eingabe dann aufgenommen wird, um die Farbe des ausfindig gemachten Bereiches des angezeigten Gesichtsbildes zu ändern.

7. Vorrichtung zum Anwenden eines virtuellen Makeovers auf das Gesicht einer Person, wobei die Vorrichtung umfasst:

    (i) eine Digitalkamera zum Aufnehmen von Informationen hinsichtlich des Gesichtsbildes der Person;
    (ii) ein Programm zur Berechnung der Farbe auf zwei oder mehreren verschiedenen Berei-

chen des Gesichtsbilds, die normalerweise nicht von Kosmetika bedeckt sind, um die natürliche Farbe der Haut der Person zu identifizieren;

(iii) einen Monitor zur Anzeige des Gesichtsbildes;

(iv) ein Programm zum Farbauftrag einer vorbestimmten Farbpalette, die mit der natürlichen Hautfarbe auf bestimmten ausfindig gemachten Bereichen des Gesichts, die normalerweise Gegenstand einer farbkosmetischen Behandlung sind, korrelieren; und

(v) ein Drucker, der einen Ausdruck der vorbestimmten Farbpalette ausgibt.

8. Vorrichtung nach Anspruch 7, wobei die ausfindig gemachten Bereiche Lippen sind und das Farbauftragprogramm auf den Lippen eine Lippenstiftmarkierung mit einer Farbe anzeigt, die sich von jener der natürlichen Hautfarbe unterscheidet.

9. Vorrichtung nach Anspruch 7, wobei die ausfindig gemachten Bereiche sich um die Augen herum befinden und das Farbauftragprogramm um die Augen herum eine Lidstrich- oder eine Lidschattenmarkierung einer Farbe, die sich von der natürlichen Hautfarbe unterscheidet, anzeigt.

10. Vorrichtung nach einem der Ansprüche 7 bis 9, wobei das Farbauftragprogramm außerdem der durch das Gesicht der Person repräsentierten Kundin eine Zahl zuordnet und ein Strichcodesymbol oder eine andere Bezeichnung, die ein angefordertes Farbkosmetikum mit der Kundin korreliert, einem farbigen Kosmetikum zuordnet.

11. Vorrichtung nach einem der Ansprüche 7 bis 10, wobei das Farbauftragprogramm außerdem Befragen einer durch das Gesicht der Person repräsentierten Kundin hinsichtlich ihrer eigenen Farbbevorzugungen einschließt, wobei die Eingabe dann aufgenommen wird, um die Farbe der ausfindig gemachten Bereiche des angezeigten Gesichtsbildes zu ändern.

Revendications

1. Procédé d'application d'un changement de style virtuel sur le visage d'une personne, ledit procédé consistant à :

(i) diriger une caméra numérique vers le visage d'une personne afin d'enregistrer une image d'au moins une partie de celui-ci ;
(ii) calculer les paramètres de couleur de deux zones ou plus de l'image afin d'identifier une couleur naturelle de la peau ;

(iii) transmettre l'image sur un écran afin d'afficher le visage ;
(iv) corréler la couleur naturelle de la peau avec une palette prédéterminée de couleurs appropriées à la couleur naturelle calculée de la peau ;
(v) localiser les zones du visage pour l'application d'un cosmétique coloré ; et
(vi) afficher l'image du visage avec la palette de couleur prédéterminée sur les zones localisées

2. Procédé selon la revendication 1, comprenant en outre le fait de passer une commande de cosmétiques colorés correspondant à la palette de couleur prédéterminée.

3. Procédé selon la revendication 1 ou la revendication 2, dans lequel les zones localisées sont les lèvres et, dans le cadre de l'étape (vi), afficher sur les lèvres une marque de rouge à lèvres ou une couleur autre que celle de la couleur naturelle de la peau.

4. Procédé selon la revendication 1 ou la revendication 2, dans lequel les zones localisées sont situées autour des yeux et, dans le cadre de l'étape (vi), afficher autour des yeux une marque d'eyeliner ou d'ombre à paupières d'une couleur différente de la couleur naturelle de la peau.

5. Procédé selon l'une quelconque des revendications 1 à 4, comprenant en outre l'étape consistant à attribuer à un client, représenté par le visage de la personne, un numéro, et à attribuer au cosmétique coloré un symbole de code barre ou une autre désignation qui fasse la corrélation entre la commande de cosmétique coloré et le client.

6. Procédé selon l'une quelconque des revendications 1 à 5, comprenant en outre le fait de demander à un client représenté par le visage d'une personne quelles sont ses préférences personnelles en matière de couleur, lesdites informations étant ensuite enregistrées afin de changer la couleur de la zone localisée de l'image du visage exposée.

7. Appareil pour appliquer un changement de style virtuel sur le visage d'une personne, ledit appareil comprenant :

(i) une caméra numérique pour acquérir de l'information sur l'image du visage d'une personne :
(ii) un programme pour calculer la couleur sur deux zones différentes ou plus de l'image du visage qui n'est pas normalement recouverte par des cosmétiques afin d'identifier une couleur naturelle d'un visage d'une personne ;
(iii) un écran pour afficher l'image du visage ;

chen des Gesichtsbilds, die normalerweise nicht von Kosmetika bedeckt sind, um die natürliche Farbe der Haut der Person zu identifizieren;

(iii) einen Monitor zur Anzeige des Gesichtsbildes;

(iv) ein Programm zum Farbauftrag einer vorbestimmten Farbpalette, die mit der natürlichen Hautfarbe auf bestimmten ausfindig gemachten Bereichen des Gesichts, die normalerweise Gegenstand einer farbkosmetischen Behandlung sind, korrelieren; und

(v) ein Drucker, der einen Ausdruck der vorbestimmten Farbpalette ausgibt.

8. Vorrichtung nach Anspruch 7, wobei die ausfindig gemachten Bereiche Lippen sind und das Farbauftragprogramm auf den Lippen eine Lippenstiftmarkierung mit einer Farbe anzeigt, die sich von jener der natürlichen Hautfarbe unterscheidet.

9. Vorrichtung nach Anspruch 7, wobei die ausfindig gemachten Bereiche sich um die Augen herum befinden und das Farbauftragprogramm um die Augen herum eine Lidstrich- oder eine Lidschattenmarkierung einer Farbe, die sich von der natürlichen Hautfarbe unterscheidet, anzeigt.

10. Vorrichtung nach einem der Ansprüche 7 bis 9, wobei das Farbauftragprogramm außerdem der durch das Gesicht der Person repräsentierten Kundin eine Zahl zuordnet und ein Strichcodesymbol oder eine andere Bezeichnung, die ein angefordertes Farbkosmetikum mit der Kundin korreliert, einem farbigen Kosmetikum zuordnet.

11. Vorrichtung nach einem der Ansprüche 7 bis 10, wobei das Farbauftragprogramm außerdem Befragen einer durch das Gesicht der Person repräsentierten Kundin hinsichtlich ihrer eigenen Farbbevorzugungen einschließt, wobei die Eingabe dann aufgenommen wird, um die Farbe der ausfindig gemachten Bereiche des angezeigten Gesichtsbildes zu ändern.

Revendications

1. Procédé d'application d'un changement de style virtuel sur le visage d'une personne, ledit procédé consistant à :

(i) diriger une caméra numérique vers le visage d'une personne afin d'enregistrer une image d'au moins une partie de celui-ci ;
(ii) calculer les paramètres de couleur de deux zones ou plus de l'image afin d'identifier une couleur naturelle de la peau ;

(iii) transmettre l'image sur un écran afin d'afficher le visage ;
(iv) corréler la couleur naturelle de la peau avec une palette prédéterminée de couleurs appropriées à la couleur naturelle calculée de la peau ;
(v) localiser les zones du visage pour l'application d'un cosmétique coloré ; et
(vi) afficher l'image du visage avec la palette de couleur prédéterminée sur les zones localisées

2. Procédé selon la revendication 1, comprenant en outre le fait de passer une commande de cosmétiques colorés correspondant à la palette de couleur prédéterminée.

3. Procédé selon la revendication 1 ou la revendication 2, dans lequel les zones localisées sont les lèvres et, dans le cadre de l'étape (vi), afficher sur les lèvres une marque de rouge à lèvres ou une couleur autre que celle de la couleur naturelle de la peau.

4. Procédé selon la revendication 1 ou la revendication 2, dans lequel les zones localisées sont situées autour des yeux et, dans le cadre de l'étape (vi), afficher autour des yeux une marque d'eyeliner ou d'ombre à paupières d'une couleur différente de la couleur naturelle de la peau.

5. Procédé selon l'une quelconque des revendications 1 à 4, comprenant en outre l'étape consistant à attribuer à un client, représenté par le visage de la personne, un numéro, et à attribuer au cosmétique coloré un symbole de code barre ou une autre désignation qui fasse la corrélation entre la commande de cosmétique coloré et le client.

6. Procédé selon l'une quelconque des revendications 1 à 5, comprenant en outre le fait de demander à un client représenté par le visage d'une personne quelles sont ses préférences personnelles en matière de couleur, lesdites informations étant ensuite enregistrées afin de changer la couleur de la zone localisée de l'image du visage exposée.

7. Appareil pour appliquer un changement de style virtuel sur le visage d'une personne, ledit appareil comprenant :

(i) une caméra numérique pour acquérir de l'information sur l'image du visage d'une personne :
(ii) un programme pour calculer la couleur sur deux zones différentes ou plus de l'image du visage qui n'est pas normalement recouverte par des cosmétiques afin d'identifier une couleur naturelle d'un visage d'une personne ;
(iii) un écran pour afficher l'image du visage ;

(iv) un programme pour peindre une palette de couleurs prédéterminées en corrélation avec la couleur naturelle de la peau sur certaines zones localisées du visage qui sont normalement soumises à un traitement cosmétique coloré ; 5 et

(v) une imprimante délivrant une épreuve de la palette de couleur prédéterminée.

8. Appareil selon la revendication 7 dans lequel les zones localisées sont les lèvres et le programme de peinture affiche sur les lèvres une marque de rouge à lèvres ayant une couleur différente de celle de la couleur naturelle de la peau.

9. Appareil selon la revendication 7, dans lequel les zones localisées sont autour des yeux et le programme de peinture affiche autour des yeux une marque d'eyeliner ou d'ombre à paupières d'une couleur autre que celle de la couleur naturelle de la peau.

10. Appareil selon l'une quelconque des revendications 7 à 9, dans lequel le programme de peinture attribue en outre à un client, représenté par le visage de la personne, un numéro, et assigne un cosmétique coloré à un symbole de code barre ou une autre désignation qui fasse la corrélation entre un cosmétique coloré commandé et un client.

11. Appareil selon l'une quelconque des revendications 7 à 10, dans lequel le programme de peinture inclut en outre le fait de demander à un client représenté par le visage d'une personne, quelles sont ses préférences personnelles en matière de couleur, ces informations étant ensuite enregistrées pour changer la couleur des zones localisées de l'image de visage exposée.

(iv) un programme pour peindre une palette de couleurs prédéterminées en corrélation avec la couleur naturelle de la peau sur certaines zones localisées du visage qui sont normalement soumises à un traitement cosmétique coloré ; et

(v) une imprimante délivrant une épreuve de la palette de couleur prédéterminée.

8. Appareil selon la revendication 7 dans lequel les zones localisées sont les lèvres et le programme de peinture affiche sur les lèvres une marque de rouge à lèvres ayant une couleur différente de celle de la couleur naturelle de la peau.

9. Appareil selon la revendication 7, dans lequel les zones localisées sont autour des yeux et le programme de peinture affiche autour des yeux une marque d'eyeliner ou d'ombre à paupières d'une couleur autre que celle de la couleur naturelle de la peau.

10. Appareil selon l'une quelconque des revendications 7 à 9, dans lequel le programme de peinture attribue en outre à un client, représenté par le visage de la personne, un numéro, et assigne un cosmétique coloré à un symbole de code barre ou une autre désignation qui fasse la corrélation entre un cosmétique coloré commandé et un client.

11. Appareil selon l'une quelconque des revendications 7 à 10, dans lequel le programme de peinture inclut en outre le fait de demander à un client représenté par le visage d'une personne, quelles sont ses préférences personnelles en matière de couleur, ces informations étant ensuite enregistrées pour changer la couleur des zones localisées de l'image de visage exposée.

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